

FINAL MEETING SUMMARY

HANFORD ADVISORY BOARD TANK WASTE COMMITTEE

January 7, 2015

Richland, WA

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This is only a summary of issues and actions in this meeting. It may not represent the fullness of ideas discussed or opinions given, and it should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Dirk Dunning, Tank Waste Committee (TWC) chair, welcomed the committee and introductions were made. The committee adopted the November 2014 meeting summary with minor revisions.

Announcements

Dirk reminded committee members that nominations for 2015 committee leadership positions would open beginning in February. Committee chair and vice chair serve for one year, and there are no term limits placed on the positions. New committee leadership will begin serving in April 2015, and self-nominations are allowed. Dirk encourage TWC members to consider nominations in the coming weeks.

Dirk also announced that Harold Heacock, long-time Hanford Advisory Board (HAB or Board) member and retired Hanford engineer, had recently passed away. The committee recognized that Harold had made tremendous contributions to the Board's work and that his presence and perspectives would be missed.

Risk-Based Retrieval, Treatment, and Closure

Introduction

Dirk provided the committee with a detailed introduction to and history of risk-based retrieval, treatment, and closure of Hanford Site tank farms, especially with regards to C-Farm. Dirk noted that the topic of risk-based retrieval is a highly complex one that involves multiple regulatory frameworks, including the

Resource Conservation and Recovery Act (RCRA), the Atomic Energy Act and Nuclear Waste Policy Act, and the Comprehensive Environmental Response, Conservation, and Liability Act (CERCLA), including the Natural Resource Damage provisions, each with their own regulating agency (Ecology, DOE, and EPA, respectively). Interested groups, such as the State of Oregon, local tribes, and the Nuclear Regulatory Commission, are also involved in the process. Dirk reminded committee members that the day's discussion on risk-based retrieval would span two distinct topic discussions throughout the day, and the committee would hear an overview of work that has been accomplished, the regulatory frameworks and procedures currently guiding retrieval and closure efforts, and the residual waste that remains inside of emptied tanks. Dirk noted that liaisons from both the U.S. Department of Energy (DOE) and the Washington Department of Ecology (Ecology) were available to provide responses to committee questions and concerns, and he noted that the both of the meeting's planned topics were closely related to one another in terms of background information and committee follow up.

Agency Presentation

Joni Grindstaff, U.S. Department of Energy – Office of River Protection (DOE-ORP), noted that she would present the committee with a briefing on tank farm retrieval status, highlighting current retrieval efforts and technical issues. Joni referenced the Fiscal Year 2015 HAB Work Plan, recognizing that the document requests that the TWC work throughout the year to generate a technical report to help guide risk-based retrieval, treatment, and closure efforts at the Hanford Site. Joni said that she would provide the committee with background on risk-based retrieval efforts, and her overview* covered the following main points:

- There are 149 single-shell tanks (SST) at the Hanford Site, the oldest of which were built in 1943. Several of these tanks are assumed to have leaked an estimated total of 1 million gallons of tank waste. There are 28 double-shell tanks (DST) at Hanford, and current retrieval efforts are focused on moving waste from SSTs and into to DSTs. Interim stabilization efforts have removed nearly all free liquids from SSTs.
- Tank waste retrieval is moving forward by farm-by-farm as opposed to by individual tank. Contractors are currently preparing Tank Farms A and AX for retrieval. At Tank Farm C (C-Farm), waste retrieval at 13 of the 16 tanks has been completed, and all C-Farm tanks have completed review.
- DOE-ORP considers waste retrieval at C-Farm a RCRA task, and the agency plans to transition the farm to a landfill permit following the retrieval of waste from the tanks. Soil samples taken during the permitting process will help to characterize contamination from C-Farm tanks (more information on the landfill permit will be provided by Chris Kemp, DOE-ORP, during the *Waste Management Area C Performance Assessment* discussion).
- Tank waste retrieval is regulated in several ways. A tank closure Environmental Impact Statement (EIS) was done, and it demonstrated that at least 99% of waste needed to be removed from SSTs before they could be considered empty. The 1% residual translates into a volume of no more than

* **Attachment 1:** DOE-ORP Display Boards

360 ft³ of residual waste per SST, and the U.S. Environmental Protection Agency (EPA) noted that each individual tank must be emptied to this 1% threshold (as opposed to an uneven 1% residual spread across an entire tank farm). The Consent Decree (CD) notes that tank retrieval is limited to three technologies. Two technologies are used to empty SSTs to 360 ft³; the third technology is then evaluated based on cost. Currently, the risks posed by residual tank wastes (e.g. radionuclides) do not factor into the regulatory framework.

- DOE-ORP is concerned about radionuclides as they relate to groundwater. The agency believes that hydrophilic radionuclides are those that pose the greatest risk, and, therefore, they are the most important components of tank waste to move into secure DST infrastructure. Tank waste retrieval strategies incorporate high pressure hot water washes. The water binds to these radionuclides of concerns, and the residual is composed largely of sands. Hot water rinses in C-Farm have been very successful, and retrieval efforts in tank farms A and AX are already implementing the washes as a strategy for dissolving salt cakes.
- Risk-based retrieval aims to balance the composition of remaining tank wastes and the risks associated with them as opposed to only considering volume. DOE-ORP is currently looking into tools to help the agency measure these risks appropriately. In conjunction with PNNL, Washington River Protection Solutions, LLC recently authored a white paper that explores some ideas relating to risk-based tank waste retrieval.

Regulator Perspectives

Jeff Lyon, Washington Department of Ecology (Ecology), provided a brief presentation* to supplement DOE-ORP's overview of risk-based retrieval. Jeff noted that the topic may not be cleanly defined yet, and he hoped to give additional clarification and background information to facilitate the TWC's upcoming discussions. Jeff relayed the following key points to the committee:

- Each tank at the Hanford site is different, and comparable amounts of residual may contain different levels of contaminants (e.g. curies of technetium in C-Farm tanks post retrieval). Compounds such as uranium can behave differently in tanks depending upon the presence of other compounds. DOE-ORP has a strong record of sampling tanks to characterize components, and a wide variety of risk can exist in 360 ft³ of residual waste.
- DOE-ORP is currently retrieving approximately 135,000 gallons of tank waste per year. The Retrievals System Plan 7 notes that tank retrievals will need to reach approximately 1,100,000 gallons per year by 2030. Several planned retrievals may be postponed due to waste acceptance delays at New Mexico's Waste Isolation Pilot Plant.
- An important question relating to tank waste retrieval is: "when is it appropriate to stop retrieving waste?" Ecology supports using funds wisely. At tank C-107, for example, 400 days of waste removal yielded very little difference in the amount of residual waste remaining in the tank.

* **Attachment 2:** Risk-Based Retrievals (Ecology presentation)

- Costs of waste retrieval are growing. Costs are projected to escalate by a multiplier of three in the coming years.
- The tank closure EIS demonstrates that contamination in tank farm soils is a concern for groundwater.

In closing, Jeff noted that the TWC and the Board should continue conversations with DOE-ORP to better clarify and define the scope of the technical report that the committee is asked to undertake. Jeff stated that Ecology and DOE-ORP have a strong collaborative relationship moving forward on tank waste removal.

*Committee Questions and Responses**

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. Has the risk-based retrieval white paper been released to the public?

R. [DOE-ORP] The white paper was released approximately one month ago as a component of Hanford's Grand Challenge. It has not yet been released to the public, but the agency will look into sharing the document with the Board.

C. Could DOE-ORP provide additional definitions or imagery pertaining to the agency's vision of a clean closure of Hanford tank farms. In 100 years, for example, how will the agency ensure the protection of human and environmental health?

R. [DOE-ORP] The Performance Assessment will demonstrate this vision. Also, DOE-ORP authored a paper as part of the M4580 TPA milestone that helped to demonstrate this vision.

C. Many of the risks at the tank farms are driven by the residual waste in the soils, not the 1% remaining in the tanks. There is a large amount of data that is missing from current tank farm contamination models. The waste in the soil will likely require extensive work and removal of some tanks. Pipelines and ancillary facilities that contain high-level waste will have to be removed to meet regulations and further work will likely be required to adequately remediate these sources of contamination.

C. With regards to removing tanks, the risk to workers is very high. It is not an easy process, and it is very expensive.

C. The noted risks associated with tank retrieval takes into account several assumptions. At Oak Ridge, tanks were successfully ground out using technology developed at Hanford and Savannah River. The risks of tank removal will need to be weighed against the risks associated with not remediating potentially dangerous soil contamination.

Q. Is there any sense that more than three retrieval technologies are needed to adequately empty tanks?

* **Attachment 3:** Transcribed Flipcharts

R. [DOE-ORP] The CD only addresses retrieval. The Tri-Party Agreement addresses tank closure plans. DOE-ORP will explore a landfill closure for tank farms and will submit a permit request to Ecology. The closure plan will then receive independent review and will be submitted to Ecology. The Performance Assessment will determine what needs to be completed before this permitting process can be explored. Tri-Party Agreement (TPA) agencies do not yet understand exactly what the RCRA closure of a tank farm to a landfill looks like, but current efforts are bringing the agencies closer to this understanding.

Q. There appears to be a strong assumption that closure of the tank farms will leave the tanks in place; however, it seems like there are a lot of gaps in the available data. How can the TPA agencies be sure that this is the most appropriate cleanup strategy?

R. [DOE-ORP] If a landfill closure is chosen, the tanks will not be removed. DOE-ORP has already done the preferred alternative for a landfill closure. In C-Farm, the preferred alternative is under development while retrieval is coming to a close. Sampling efforts are commencing in tank farms A and AX to provide soil information to educate remediation and cleanup.

R. [Ecology] If waste is effectively retrieved from tanks, then residual contamination in the soil is the most pressing threat. However, if tank waste cannot be adequately retrieved, tanks remain the most pressing source of contamination. The graphs included in the tank closure EIS demonstrated that the longer it takes to act on remediating contaminants in the soil, the larger the problem becomes. If C-Farm is remediated, but tank farms BBX and BBY are not addressed in the next twenty years, there will be negative impacts on groundwater. This demonstrates that retrieval needs to be done in a mindful and targeted way.

R. [Ecology] Landfill closure does not necessarily mean that the tanks are not removed, it just means that some residual remains. The cost of removing each tank is significant to the project.

Q. How far along is the tank closure EIS Record of Decision (ROD) process?

R. [Ecology] The ROD has been issued, and it is available on the Hanford Site website. The released ROD recognizes that DOE-ORP would prefer a landfill closure of tank farms.

C. It seems like DOE should invest in technology that could monitor tank waste in real-time, as it is retrieved, to see what contaminants are present. Something like this could save significant money and help DOE-ORP to better characterize residual waste.

Q. One aspect of risk-based retrieval that is disconcerting—it appears as though this is an effort by DOE to leave more waste in tanks and reduce cleanup costs. It seems as though there is more emphasis placed on cost-saving as opposed to removing as much waste as possible. Is this an accurate characterization of DOE-ORP's perspective on tank waste retrieval? What are Ecology's perspectives?

R. [DOE-ORP] The focus of waste removal is not on volume, it's on bad actors (i.e. radionuclides). DOE-ORP can continue to deploy technologies to remove all waste from each tank, but this is not an effective use of time or money if that waste is largely sand. DOE-ORP is

not interested in leaving more materials, but the agency does believe that the volume of residual waste is not as important as the composition of residual waste.

R. [Ecology] Many tanks have aluminum and iron residual in them. There is no risk posed by either of these elements.

Q. How confident is DOE-ORP that all of the bad actors are being removed from tanks?

R. [DOE-ORP] The process of removing tank waste is not as difficult as it initially seems. The solid components are often sandy, and they can be dissolved with hot water washes and caustics. Many of the target compounds are readily dissolved by water. The Retrieval Data Report sampling demonstrates a level of quantitative data as tanks are emptied and illustrates the composition of residual tank wastes.

Q. If DOE flushes a tank out with water, what then happens to that water?

R. [DOE-ORP] There is a water budget that is assigned to tank waste retrieval. The evaporator and DST space accounts for this water budget. This budget does not allow for any more water use after A and AX tank farms—DOE is unable to evaporate any more.

C. One issue associated with evaporating water out of tanks is the tritium load that the remaining water carries. DOE will need to consider adding tank space to store this tritiated water or removing the tritium from the water prior to disposal (such technology is now commercially available).

Q. The performance review for C-Farm was held up because funding was taken away from the effort. Where is DOE-ORP currently at with this process?

R. [DOE-ORP] It is a priority.

C. There has been no forward movement on the idea of removing tanks. DOE-ORP and Ecology appear to be asking the TWC if the Board could accept a risk-based scenario where tanks are left in place. All of the documentation is leading up to a closure of C-Farm, and that closure does not appear to include digging tanks up and remediating the vadose zone.

C. In the past, the HAB has been a policy-level advisory board. The advice that the Board has released was high-level. The move towards more technical Board products is new, and the Board will need to clarify best practices for conducting these requests in a responsible way. This should be a topic for HAB leadership to discuss further at upcoming Executive Issues Committee meetings.

Q. In the past, the HAB has struggled to get information from DOE-ORP to educate discussions and Board efforts. There is concern that technical reports will be difficult for committees to write without the accurate and timely sharing of information and dedicated funding for technical reports.

R. [DOE-ORP] The FY 2015 HAB Work Plan is part of the beginning phase of moving away from advice and into more technical reports. As such, more information sharing will need to

occur. DOE-ORP will make the commitment to get available information to the HAB as it is requested.

C. It is difficult or impossible for the Board to request reports and information that members do not know exist.

Q. Can the Board be provided with the retrieval sampling data and any other associated information from the leaking tanks?

R. [DOE-ORP] DOE-ORP provides certification data and a report to Ecology. It takes approximately one year to produce this document following a tank's retrieval. If the Board is interested, DOE-ORP will take recommendations as to which reports the HAB would like to review and then release appropriate documents for consideration.

C. [Ecology] DOE-ORP has offered the Board a multitude of resources today, somewhere in the ballpark of 10,000 pages of reading. The committee should work closely with DOE to identify which of these documents will be most beneficial to future work and discussions. Moving forward, the Board could also consider the clean closure scenario that the tank closure EIS evaluated.

C. The Board has hired a technical contractor in the past. It is likely that members of the HAB do not have the technical experience to effectively author these documents on our own, and the Board may need to consider hiring external assistance once again. The scope of this technical report is monumental, and it will be a challenge to even ask the correct questions and gather the needed resources.

Q. What is the risk-based retrieval point of compliance?

R. [DOE-ORP] As of now, there is no risk-based retrieval point of compliance. The Grand Challenge will aim to identify this.

Q. Will the tank farms be wrapped into a landfill closure for the entire 200 Area?

R. [DOE-ORP] No. Currently, the proposed landfill closure is for individual farms. However, DOE-ORP will not be able to develop these landfill closures until the preferred alternatives and the closure plans are completed.

Q. Is DOE-ORP considering all tank farms as a single unit? A risk-based closure needs to consider all tank farms together.

R. [DOE-ORP] DOE-ORP is using the tank closure EIS as our composite analysis and starting at that point.

The committee thanked Joni and Jeff for their perspectives. TWC delayed developing next steps until after the committee had discussed the Waste Management Area C Performance Assessment.

Waste Management Area C Performance Assessment

Agency Presentation

Chris Kemp, DOE-ORP, provided a presentation* on the background and status of the Waste Management Area C (WMA C) Performance Assessment, including a discussion on the tank and grout degradation modeling approach and the evaluation of the effect of vadose zone heterogeneities on model results. Chris noted the following key points in his presentation:

- In some cases, tanks are grouped into WMAs. In other cases, entire tank farms are grouped into WMAs. C-Farm is geographically isolated from other tank farms, and, therefore, it is incorporated into a WMA that is distinct from other tank farms. The first tanks in WMA C were hurriedly constructed during the World War II period, and input to the tanks over the years has come from all major chemical processing operations at the Hanford Site.
- C-Farm has had nine unplanned releases (UPRs) over the years, totaling 149,600 gallons of tank waste. Many of these UPRs were overflows as opposed to leaks. DOE-ORP will need to conduct a Rev. 1 of the Performance Assessment that will note these releases to the soil. The agency will also do a Performance Assessment for the tank residuals and the pipelines. Performance Assessments are always interim, and they will be the tool for the decision document. C-Farm contaminants have impacted groundwater; the area is currently not in alignment with drinking water standards.
- Many pipelines at C-Farm were flushed when pumping efforts were finished; however, some were simply capped. The pipeline residual is taken into account in the residual inventories of key chemicals of potential concern.
- When tanks at C-Farm were constructed, workers excavated an area, constructed the tanks, and then backfilled the area surrounding the tanks. This engineered backfill is taken into account in modelling efforts.
- The State of Oregon and the Nez Perce Tribe have assisted DOE-ORP in the creation of conceptual models. DOE-ORP has also had ten working sessions with the public to assist in the creation of a framework for the agency's data sets. Actual modeling is now commencing.
- The Performance Assessment approach takes into account a Denominator Case (established in scoping, incorporates the current estimates of tank residuals and a diffusion-controlled release for grouted tanks and equipment) as well as Sensitivity Cases (incorporates selected tank degradation, recharge sensitivity, and upper bound residual scenarios).
- Working sessions open to the public have defined hydraulic properties of WMA C and the informed Denominator Case recharge rates in five distinct Hanford phases (pre-1945 to post-2052).

* **Attachment 4:** Hanford Site Waste Management Area C Performance Assessment Current Status (DOE-ORP Presentation)

- Flows for the GoldSim-based (software) system model have been abstracted and evaluated for intact and fully degraded tank cases. There are working system-level models for all other tanks, pipelines, and the CR-vault in WMA C. Waste release models include diffusion-controlled, advection controlled, and experimentally derived scenarios. Multiple exposure scenarios are also explored.
- Five years of work have been conducted on the Performance Assessment. A draft of the document (Rev. 0) will likely be released in October 2015. The Performance Assessment is a tool, not a decision document, and Ecology may use the document to inform a RCRA closure analysis for hazardous chemical impacts in WMA C. Beginning in November 2015, DOE-ORP will incorporate additional information into the Performance Assessment and begin building a Rev. 1 of the document.

Regulator Perspectives

Jeff Lyon, Ecology, noted that Ecology's commitment to the WMA C Performance Assessment is still developing in several regards. Jeff noted that the interagency understanding of the regulatory case (Sensitivity Cases) is still evolving, and Ecology has several ongoing concerns relating to the Denominator Case. Ecology stated that the closure plan for tank farms has not yet been decided on, but the modelling process is agreed upon between agencies. Jeff closed by recognizing that Ecology and DOE-ORP have had productive, collaborative conversations on topics relating to the Performance Assessment, and the agencies have made substantial progress.

*Committee Questions and Responses**

Note: This section reflects individual questions, comments, and agency responses, as well as a synthesis where there were similar questions or comments.

Q. What is the difference between a diffusion-controlled release and an advection-controlled release?

R. [DOE-ORP] Waste can be transported through soils in either way. Molecular diffusion will occur naturally, and advection will occur when hydraulic pressure is present.

Q. One missing component in this conversation is the "big picture" starting point. It is important to understand how C-Farm contaminants contribute to the overall contamination at the Hanford site and how the movement of these contaminants may impact groundwater or public health in the future. Without this overall picture, it is very difficult to have intelligent discussions regarding the extent of tank farm cleanup. It is important to start from an EIS point and then work backwards to clarify cleanup needs in individual areas.

R. [DOE-ORP] The tank closure EIS is our starting point—it is very high quality, and it is the best tool that the agencies have for planning tank farm cleanup and closure.

R. [WRPS] The EIS model provided the starting point for the WMA C modelling approach.

* **Attachment 3:** Transcribed Flipcharts

C. Another potential resource that could be compared to the tank closure EIS is the C-Farm program impact analysis.

Q. In C-Farm, what wastes did the catch tank receive?

R. [DOE-ORP] C-301 received the output of four of the seven diversion boxes (pipe intersections). Largely, the catch tank receives rain water, etc. Leaks in diversion boxes are uncommon, but all tank farms have catch tanks built in. The diversion boxes have been weather sealed, and they have not been examined recently.

R. [Ecology] The catch tank is important to Ecology—it is important to check the tank for waste and characterize whatever is present. The last time that the C-Farm catch tank was sampled in the 1970s or 1980s, there was liquid present. The tank is concrete, and it is important to ensure that those liquids are still there.

Q. Could the composition of waste in the catch tank could potentially illuminate the wastes that are present in the diversion boxes?

R. [DOE-ORP] DOE-ORP will need to look into all tanks and characterize any waste regardless. The vaults and the pipelines will all need to be emptied. All high-level waste will need to be removed before C-Farm can be closed.

Q. In the early 1990s, there was a tank waste task force that could offer important lessons to these current discussions on tank farm closure. This journey needs to happen in a setting where we can have transparent discussions over a period of time. The Board should be more deeply involved in these conversations on tank farm closure.

R. [Ecology] Ecology appreciates the Board's input. If everyone can reach the same level of understanding, HAB involvement would be tremendously helpful to these efforts.

Q. Are there plans to input additional information into modelling efforts?

R. [DOE-ORP] Potentially yes. If DOE-ORP becomes aware of additional important information, that may be incorporated. There is maintenance that must be completed on the Performance Assessment every three to five years.

Q. The topics of risk-based retrieval, treatment, and closure and the WMA C Performance Assessment are closely related to one another. What next steps do the agencies suggest the Board take relating to both topics?

R. [DOE-ORP] The technical report on risk-based retrieval, treatment and closure will ideally encompass the HAB's future vision for risk-based retrieval of Hanford Site tank wastes. DOE-ORP believes that the report will take approximately a year and a half to create, and the agency will provide technical assistance and information to assist the Board in its efforts.

R. [Ecology] C-Farm is the first Hanford tank farm that will develop a RCRA Facility Investigation. This is stipulated by TPA milestones.

C. The TWC could look at the multiple regulatory processes at upcoming committee meetings and note how they parallel each other. These processes all follow the same steps, but the terminology and players are different. It would be helpful for the Board's understanding to compare these processes.

Q. Is Ecology clear on what the permit for tank closure should look like?

R. [Ecology] No. There is a TPA milestone that drives the schedule, and TPA Appendix I stipulates the SST waste retrieval and closure process. Ecology drafted a Rev. 9 permit noting the agency's opinion as to what the permit should look like. Ecology is currently still clarifying this process internally. Non-compliant tanks are going to also contain waste in them, and permits for this out of compliance storage will likely look very complicated. If tank farms are permitted to landfill closure, there will need to be extensive public input.

Q. How can the agencies author and review a permit if there is no clear understanding of the necessary requirements that the permitting process needs to meet?

R. [DOE-ORP] C-Farm is the test case for this process.

Q. What actions should the Board explore in the coming months?

R. [DOE-ORP] It would be productive to keep this conversation moving. It would also be helpful for the TWC and the Board to frame the technical report. Scheduling and scope could all be explored to facilitate future efforts. The technical report on risk-based retrieval could encompass HAB principles and should help to guide DOE policy decisions.

R. [DOE-ORP] DOE-ORP could provide additional briefings to the TWC. There is a "swim lane" chart that the agency can present. This demonstrates how DOE-ORP will approach SST work and how the agency will determine when retrieval is complete.

C. The TWC needs to think about some of the tasks that are leading up to this closure plan. It is important to remember that the retrieval of tanks and their transfer to Appendix I of the Tri-Party Agreement does not mean that retrieval is complete. It only means that the tanks are no longer active service. Additional retrieval may be required for closure. It is very important that the committee clearly understands the closure plan, because that may impact the process and the technical report. There may be facets of the planned closure strategy that the Board is uncomfortable with because of the risks, and HAB efforts will need to be adjusted accordingly.

Q. There is concern about milestones. DOE headquarters has noted that they will not agree to anything that they cannot fund. Should the Board address this facet of risk-based retrieval as policy-level advice?

R. [DOE-ORP] The focus of this topic on the HAB FY 2015 Work Plan is for the Board to produce a report for DOE-ORP in 2016.

C. If the Board discovers that additional actions need to be undertaken on this topic, there is a process for adding and updating the work plan that the TWC could explore.

C. The TWC should meet next month to discuss next-steps for the technical report and set a tentative schedule. The committee needs to explore framing questions and identify the needed level of detail that this product should incorporate. Developing these questions is an important first step, and it is not too early to start exploring them.

C. The discussion from TWC could also be the product. The committee has an obligation to ensure that all HAB membership is educated enough to sign-on to the final product. Developing framing questions is an important first step, and it is not too early to being crafting them.

C. More information on the ROD for the EIS and knowing what data is available from the tank farms would greatly help the committee to craft these framing questions. The committee will also need more information relating to the RCRA process for tank farm closure.

The committee agreed that additional framing of the technical report would be helpful to explore within the coming months. The committee planned to continue discussing next steps on the January TWC call. DOE-ORP and Ecology noted that they were willing to provide additional briefings to the committee in the coming months on topics such as the regulatory “swim lane” chart and a briefing on the reports that DOE-ORP prepared for TPA milestone M4580.

Attachments

Attachment 1: DOE-ORP display boards

Attachment 2: Risk-Based Retrievals (Ecology presentation)

Attachment 3: Transcribed Flipcharts

Attachment 4: Hanford Site Waste Management Area C Performance Assessment Current Status (DOE-ORP Presentation)

Attendees

Board members and alternates:

Richard Bloom	Pam Larsen	Maynard Plahuta
Shelley Cimon	Susan Leckband	Richard Smith
Dirk Dunning	Melanie Myers	Bob Suyama
Becky Holland	Vince Panesko (phone)	
John Howieson (phone)	Jerry Peltier	

Others:

JD Dowell, DOE-ORP	Emy Laija, EPA	Alan Aly, CHPRC
Joni Grindstaff, DOE-ORP	Jim Alzheimer, Ecology	Rod Skeen, CTUIR
Chris Kemp, DOE-ORP	Dieter Bohrmann, Ecology	Ryan Orth, EnviroIssues
James Lynch, DOE-ORP	Heather John, Ecology	Brett Watson, EnviroIssues
RD Hildebrand, DOE-RL	Jeff Lyon, Ecology	Emily Bays, Hanford Challenge (phone)
Kris Skopeck, DOE-RL	Beth Rochette, Ecology	Morgan Ashley, KNDU
	Ginger Wireman, Ecology	Jennifer Copeland, MSA
	Tom Rodgers, WDOH	Steve Beehler, Northwind/DOE-ORP
		Sharon Braswell, Northwind/DOE-ORP
		Michelle Searls, Northwind/DOE-ORP
		Marcel Begeron, WRPS
		Neil Davis, WRPS
		Susan Eberlein, WRPS
		Rob Roxburgh, WRPS
		Don Bouchey, Public